

Questions AOC and TFM Specialists will ask

(How do we take a broad systems approach to guide design decisions?)

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CTO-2: AOC/TFM Perspectives

Date: 4/22/01 10:43:00 PM Advn: 86 Origin: ATCSCC Facid: DCC Title: DFW REROUTE
ADVISORY

IMPACTED AREA: DFW BYP STAR

REASON: THUNDERSTORMS

ASSIGNED REROUTE: TRAFFIC TO DFW AREA NORMALLY OVER BYP VIA...

FROM DC METRO AREA...COLNS J6 BWG SQS CQY4 DFW ZNY...J6 BWG SQS CQY4
DFW ZBW...BAF J77 SAX J6 BWG SQS CQY4 DFW

FACILITIES INCLUDED: ZFW/ZME/ZID/ZDC/ZNY/ZBW/ZFW

VALID UNTIL: 0300

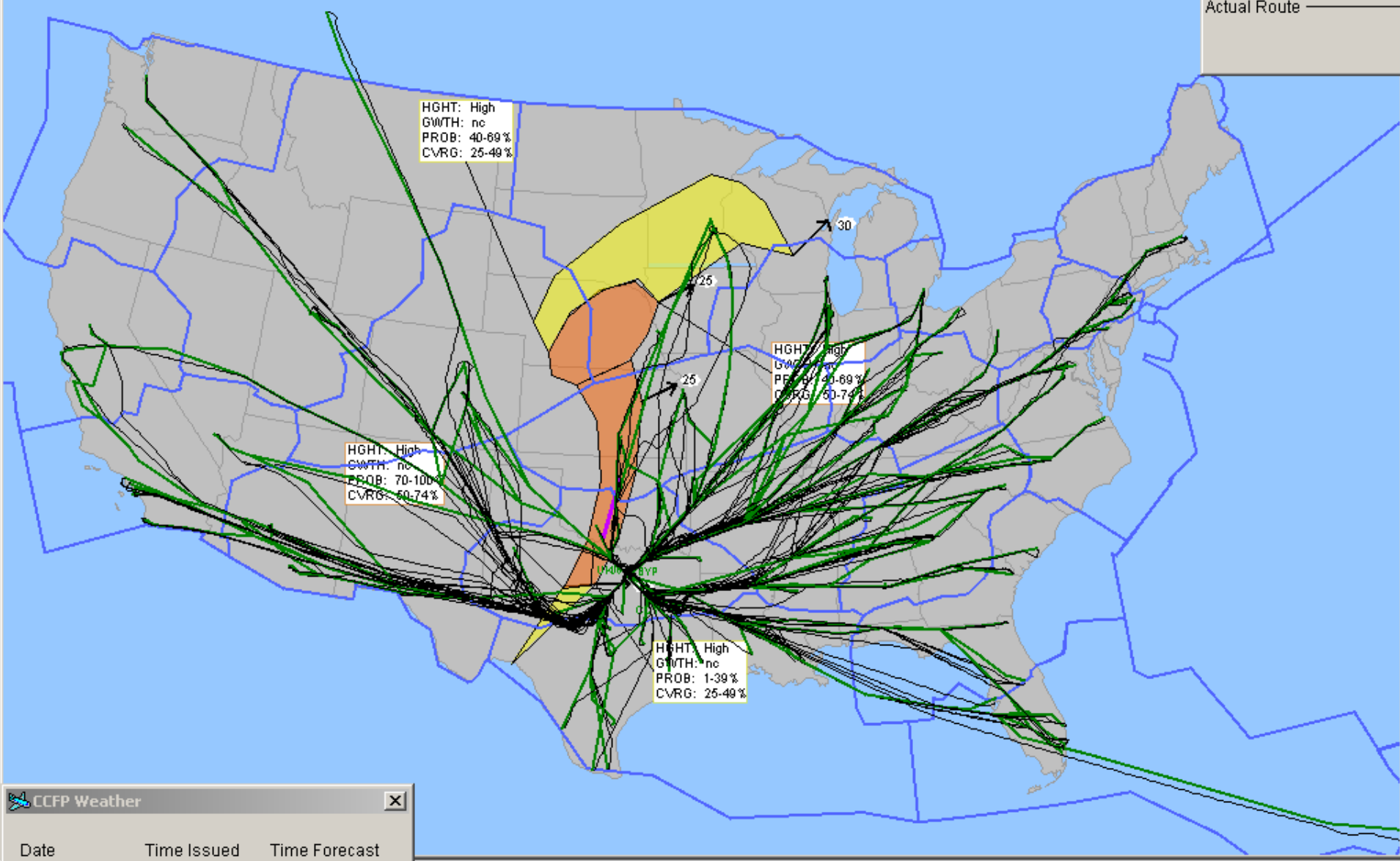
PROBABILITY OF EXTENSION: LOW

2D Display : 1

Legend

Filled Route —

Actual Route —



CCFP Weather

Date Time Issued Time Forecast

2001-04-22 19:00:00 23:00:00

Latitude: 51.23977 Longitude: -81.96633



THE
WEATHER
CHANNEL

weather.com

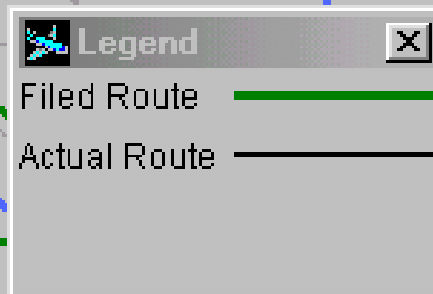
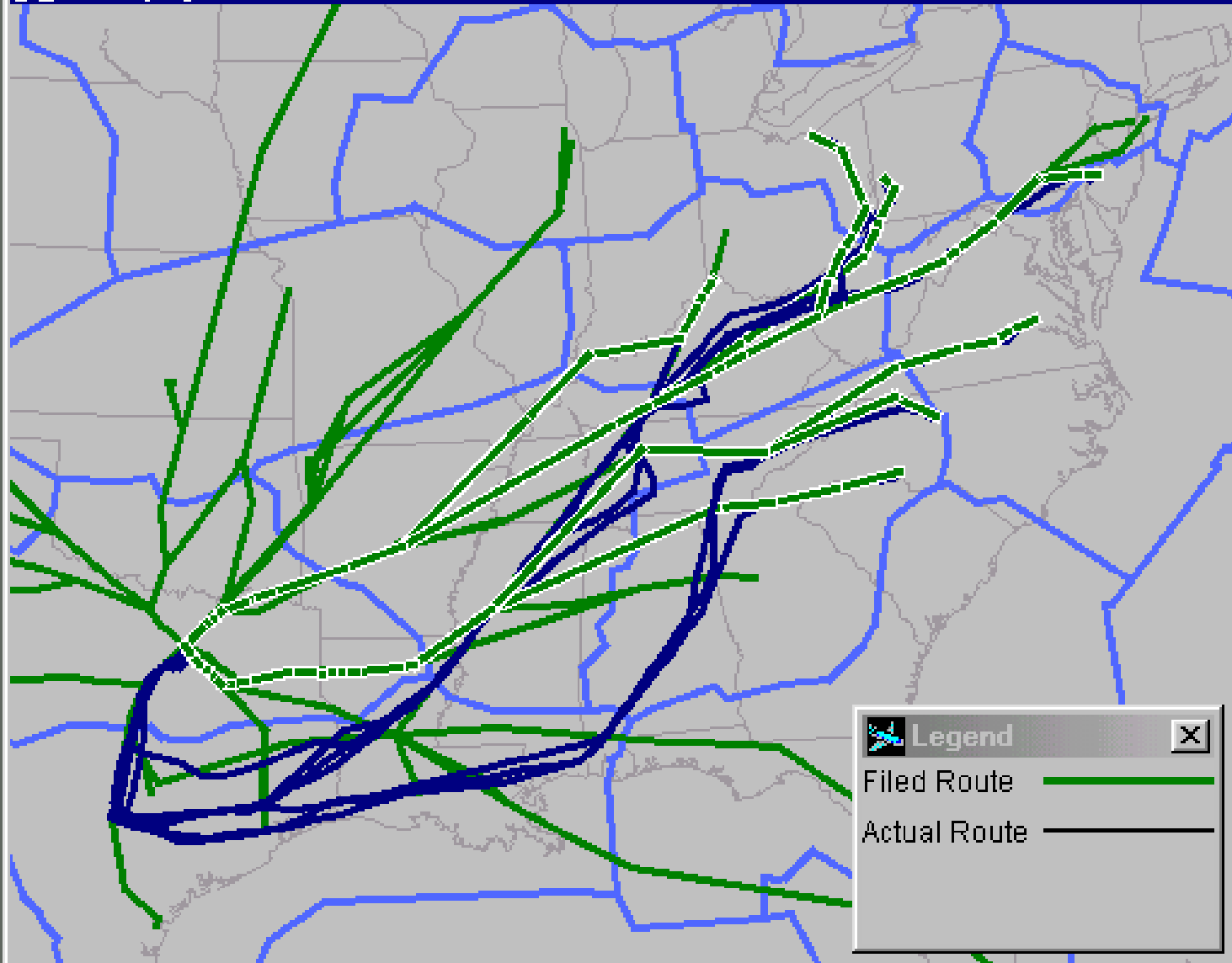
NATRAD 7 APR 2000 9:01 PM EDT

File

View

Settings

2D Display : 1



Questions AOC and TFM Specialists will ask

- What is the general problem that is being solved?

“Improved” use of existing capacity?

(What are the specific scenarios where such improvement may be possible)

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Hypothesis 1. There is a mismatch of control, goals, priorities and access to relevant data, knowledge or processing capacities

Example a. Unnecessary closing of a route by ATC/TFM because of a localized storm cell

Questions AOC and TFM Specialists will ask

- What is the general problem that is being solved?

“Improved” use of existing airspace capacity?

(What are the specific scenarios where such improvement may be possible)

Hypothesis 1. There is a mismatch of control, goals, priorities and access to relevant data, knowledge or processing capacities

Example b. Giving the wrong flight priority in sequencing flights to land

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(What are the specific scenarios where such improvement may be possible)

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Example c. Rerouting the “wrong” flight to reduce demand caused by some constraint in the system

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(What are the specific scenarios where such improvement may be possible)

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Example d. Failing to replan once a flight is airborne if it is no longer on the original schedule or if conditions have changed

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- What is the general problem that is being solved?

“Improved” use of existing capacity?

(What are the specific scenarios where such improvement may be possible)

Hypothesis 1. There is a mismatch of control, goals, priorities and access to relevant data, knowledge or processing capacities

Example e. TFM assigning a reroute that the aircraft cannot or should not fly for safety reasons

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- What is the general problem that is being solved?

“Improved” use of existing capacity?

(What are the specific scenarios where such improvement may be possible)

Hypothesis 2. Different control strategies will result in alternative uses of the available airspace, resulting in an increased capacity even with no change in separation standards, etc.

Questions AOC and TFM Specialists will ask

- What is the general problem that is being solved?

“Improved” use of existing capacity?

Increased capacity?

(What are the specific scenarios where such improvement may be possible)

Questions AOC and TFM Specialists will ask

- What is the general problem that is being solved?

Increased capacity?

(What are the specific scenarios where such improvement may be possible)

Hypothesis 1. New technologies and procedures will allow lower separation standards

Questions AOC and TFM Specialists will ask

- What is the general problem that is being solved?

Increased capacity?

(What are the specific scenarios where such improvement may be possible)

Hypothesis 2. Workload limitations are causing otherwise unnecessary inefficiencies

Example a. Tactical: A controller is too busy with other flights to allow a faster aircraft to pass a slower aircraft

Questions AOC and TFM Specialists will ask

- What is the general problem that is being solved?

“Improved” use of existing capacity?

(What are the specific scenarios where such improvement may be possible)

Hypothesis 2. Workload limitations are causing an otherwise unnecessary inefficiencies

Example b. Strategic: An ATCSCC specialist is too busy to notice that the weather has improved along a route that has been closed

Questions AOC and TFM Specialists will ask

- What is the general problem that is being solved?
 “Improved” use of existing capacity?
 Increased capacity?
- Who are the relevant specialists?

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Airline

Pilots

AOC

Dispatch

ATC Coordinator

Crew Scheduling

Maintenance

Ramp Control

Performance Analysts (process control metaphor)

Questions AOC and TFM Specialists will ask

- Who are the relevant specialists?

FAA

ATC

TFM

ATCSCC

TMUs

Performance Analysts (process control metaphor)

Questions AOC and TFM Specialists will ask

- What is the general problem that is being solved?
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- Should roles and responsibilities be changed to better take advantage of new tools and procedures?

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Dispatchers specializing in more tactical or enroute replanning?

Traffic managers/controllers with more tactical or localized strategic responsibilities?

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- What parameters of control should be utilized?

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- What parameters of control should be utilized?

“Free flight”, whether strategic or tactical, does not mean there will be no control, it means that the parameters of control will be different and that the organizations determining these parameters may be different

What should the parameters of control be for different scenarios?

RTA

Publishing of constraints

Publishing of options

Rules of the road

(transitions from “free flight” to controlled flight)

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- What is the general problem that is being solved?
“Improved” use of existing capacity?
Increased capacity?
- Who are the relevant specialists?
- Should roles and responsibilities be changed to better take advantage of new tools and procedures?
- What parameters of control should be utilized?
- How should strategic and tactical decision-making be integrated and coordinated? (What is necessary to enable benefits to be realized from improved tactical decision-making?)

Questions AOC and TFM Specialists will ask

- How should strategic and tactical decision-making be integrated and coordinated? (What is necessary to enable benefits to be realized from improved tactical decision-making?)
 - What are the scenarios where strategic solutions are viable and most effective?
 - What are the scenarios where tactical solutions are viable and most effective?
 - How should strategic decisions be influenced by knowledge of the conditions where tactical solutions are most effective in improving the use of existing capacity or increasing capacity?

Questions AOC and TFM Specialists will ask

- What is the general problem that is being solved?
“Improved” use of existing capacity?
Increased capacity?
- Who are the relevant specialists?
- Should roles and responsibilities be changed to better take advantage of new tools and procedures?
- What should the parameters of control be?
- How should strategic and tactical decision-making be integrated and coordinated? (What is necessary to enable benefits to be realized from improved tactical decision-making?)
- How do we ensure that adequate safety nets are in place?